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ABSTRACT

This digest discusses using strategy instruction to assist students with learning disabilities. It begins by describing strategy instruction as teaching students about strategies, teaching them how and when to use strategies, helping students identify personally effective strategies, and encouraging students to make strategic behaviors part of their learning schema. Terms associated with strategy instruction are then defined, including cognitive strategies, cues, independent, strategic learner, learning strategy, metacognition and self-regulating, mnemonic, and learning schema. The effectiveness of strategy instruction and student outcomes when they become strategic are discussed. The digest then identifies the most essential strategies to use for improving student performance: computation and problem solving; memory; productivity; reading accuracy and fluency; reading comprehension; and writing. The basic steps in teaching strategy use are also provided, including: (1) describe the strategy; (2) model its use; (3) provide ample assisted practice time and provide feedback; (4) promote student self-monitoring and evaluation of personal strategy use; and (5) encourage continued use and generalization of the strategy. The digest closes by discussing how little information is available to determine how many teachers teach strategic learning skills and reasons why teachers may not be using strategy instruction. (Contains 11 references.) (CR)

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# STRATEGY INSTRUCTION

## ERIC DIGEST E638

BY
PAT BECKMAN

DECEMBER 2002

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# Strategy Instruction

Pat Beckman

For more than two decades there has been an abundance of research regarding strategy instruction. Originally, most of this research focused on the effects of strategy instruction on students with learning disabilities. Researchers are currently looking at how strategy instruction affects all learners.

## What is a strategy?

In general, a strategy is a tool, plan, or method used for accomplishing a task. Below are other terms associated with strategy instruction, some of which will be discussed in this digest:

- **Cognitive Strategy:** a strategy or group of strategies or procedures that the learner uses to perform academic tasks or to improve social skills. Often, more than one cognitive strategy is used with others, depending on the learner and his/her schema for learning. In fact, research indicates that successful learners use numerous strategies. Some of these strategies include visualization, verbalization, making associations, chunking, questioning, scanning, underlining, accessing cues, using mnemonics, sounding out words, and self-checking and monitoring.
- **Cues:** visual or verbal prompts to either remind the student what has already been learned or provide an opportunity to learn something new. Cues can also be employed to prompt student use of a strategy.
- **Independent, Strategic Learner:** the student who uses cues and strategies within his/her learning schema, asks clarifying questions, listens, checks and monitors his/her work and behavior, and sets personal goals. A strategic learner knows the value of using particular strategies through experience, and is eager to learn others that might prove beneficial.
- **Learning Strategy:** a set of steps to accomplish a particular task, such as taking a test, comprehending text, and writing a story. A first-letter mnemonic is often used to help the learner follow the steps of the strategy.
- **Metacognition and Self-regulation:** the understanding a person has about how he/she learns (personal learning schema) including the strategies used to accomplish tasks, and the process by which the learner oversees and monitors his/her use of strategies.
- **Mnemonic:** a device for remembering, such as a first-letter mnemonic for writing: **PLAN** (**Pay** attention to the prompt, **L**ist main ideas, **A**dd supporting ideas, **N**umber your ideas) (DeLaPaz, Owen, Harris and Graham, 2000). Rhyme, rhythm, music, and key-word mnemonics are also useful memory tools.
- **Strategy Instruction:** teaching students about strategies, teaching them how and when to use strategies, helping students identify personally effective strategies, and encouraging them to make strategic behaviors part of their learning schema.
- **Learning Schema:** the sets, or mixes, of strategies that the individual learner uses automatically to perform, produce, communicate, or learn. It can take years to develop a personal learning schema.

## What has been learned about the effectiveness of strategy instruction?

Many students' ability to learn has been increased through the deliberate teaching of cognitive and metacognitive strategies. This is especially true for students with significant learning problems—strategy instruction is crucial for them. It has been demonstrated that when struggling students are taught strategies and are given ample encouragement, feedback, and opportunities to use them, students improve in their ability to process information, which, in turn, leads to improved learning. Because not all students will find it easy to imbed strategy use in their learning schema, differentiation of strategies instruction is required, with some students needing more scaffolding and individualized, intensive instruction than others.

## Why is it important to teach children to be strategic?

The Individuals with Disabilities Education Act (IDEA) of 1997 and the No Child Left Behind (NCLB) Act of 2001 focus on improved achievement by **all** students. IDEA mandates that **all** students access and progress in the general education curriculum. This includes students with disabilities, English language learners, and gifted students. NCLB has established performance goals that drive the efforts of public schools, especially in establishing proficiency in reading/language arts and mathematics by **all** students by the year 2013-2014. The outcomes listed below help ensure student progress. Additionally, when students become strategic, independent learners, they also become literate and productive lifelong learners.

## What happens to students when they become strategic?

The following outcomes can be expected:

- Students trust their minds.
- Students know there's more than one right way to do things.
- They acknowledge their mistakes and try to rectify them. They evaluate their products and behavior.
- Memories are enhanced.
- Learning increases.
- Self-esteem increases.
- Students feel a sense of power.
- Students become more responsible
- Work completion and accuracy improve.
- Students develop and use a personal study process.
- They know how to "try."
- On-task time increases; students are more "engaged."

### What are the most essential strategies to teach?

This is determined, in large part, by assessing what successful, efficient learners do. It has been found that they use numerous strategies across subjects and tasks, such as those listed above under "cognitive strategies". They know when to use strategies and for what purposes. An attempt to identify the most essential strategies students should learn is an impossible task; it depends on the needs of the learner and the requirements of the curriculum. However, student use of the following strategies often leads to improved student performance (lists are not inclusive):

- **Computation and problem-solving:** Verbalization, visualization, chunking, making associations, use of cues.
- **Memory:** Visualization, verbalization, mnemonics, making associations, chunking, and writing. These are usually more effective when used in combinations.
- **Productivity:** Verbalization, self-monitoring, visualization, use of cues.
- **Reading accuracy and fluency:** Finger pointing or tracking, sounding out unknown words, self-questioning for accuracy, chunking, and using contextual clues.
- **Reading comprehension:** Visualization, questioning, rereading, predicting.
- **Writing:** Planning, revising, questioning, use of cues, verbalization, visualization, checking and monitoring.

### How are students taught to use strategies?

Effective strategy instruction is an integral part of classroom instruction, regardless of the content being taught; it is not an additional subject. In the transactional strategies instruction (TSI) model, strategies instruction takes place all year long with the teacher giving explanations and modeling. Teachers continually praise students for using strategies and use teachable moments to discuss them. Students are encouraged to help their peers become more strategic.

### What are the basic steps in teaching strategy use?

The following order of steps should be followed:

- **Describe the strategy.** Students obtain an understanding of the strategy and its purpose—why it is important, when it can be used, and how to use it.
- **Model its use.** The teacher models the strategy, explaining to the students how to perform it.
- **Provide ample assisted practice time.** The teacher monitors, provides cues, and gives feedback. Practice results in automaticity so the student doesn't have to "think" about using the strategy.
- **Promote student self-monitoring and evaluation of personal strategy use.** Students will likely use the strategy if they see how it works for them; it will become part of their learning schema.
- **Encourage continued use and generalization of the strategy.** Students are encouraged to try the strategy in other learning situations.

### To what extent is strategy instruction taking place in classrooms?

Currently, there are little data available to determine how many teachers teach strategic learning skills, how many are even aware of their existence, or if they are aware, have the skills to teach them. Few teachers demonstrate to their students their own personal strategy use. In general, teachers are not aware of the importance of these skills. The fact that there is such little data leads to the assumption that strategy instruction is not a general classroom practice. Following are a few possible explanations for this:

- Early strategy instruction research was done specifically with learning disabled populations. General education preservice and inservice programs have not generalized these research findings to **all** learners.
- *How* students learn takes a back seat to what is learned. Teachers assume students will "get it" on their own, or with more teacher-directed instruction or practice.
- The idea of focusing on the learner is still in its infancy.
- "Educator overload" is a factor. Teachers, experiencing the pressures of accountability for student progress, feel they don't have time to "learn one more thing," especially something they are not convinced will improve student learning.

Numerous researchers are assisting educators in turning strategies research into practice. An increasing number of strategies instruction curricula are available, especially in reading and writing.

### Resources


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